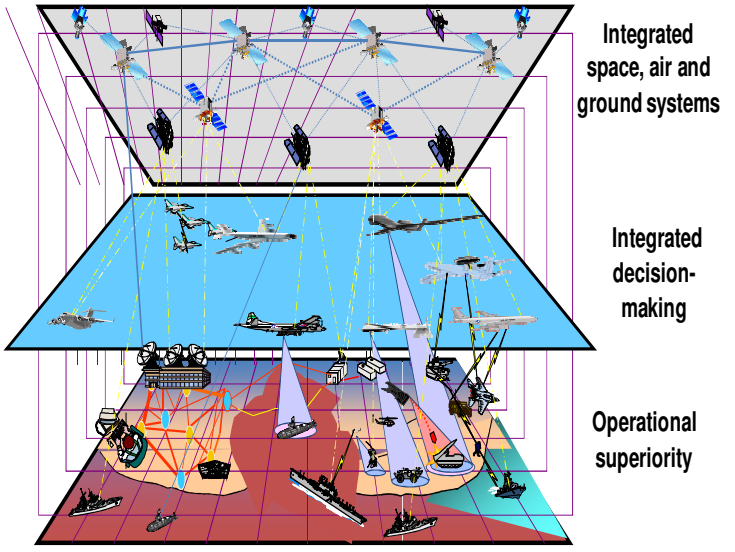
Defense Spectrum Organization Repurposing

DSO Provides Leadership in a Time of Spectrum Repurposing

The 2010 National Broadband Plan calls for a total of 500 MHz of federal and nonfederal spectrum to be made available over the next 10 years. This spectrum is to be suitable for both mobile and fixed wireless broadband use. In support of this goal, DSO is providing expert analysis and recommendations to support the identification of appropriate bands for repurposing (reallocating and/or sharing). A recent study by the President's Council of Advisors on Science and Technology stressed the need to expand the development and use of new spectrum-sharing technologies since moving Federal systems to new bands will be costly and time consuming. These new spectrum-sharing technologies are also critical to the future as there is limited federal spectrum that can be considered for further reallocation to address the exponential growth in requirements. While the DoD supports the goal of bringing affordable, mobile, wireless, high-speed internet access to all Americans, this spectrum repurposing must be done in such a way that it preserves DoD's full capabilities to support its missions.

While it is broadly recognized that spectrum demand is growing in the private sector, military spectrum requirements are also increasing. Net-centric operations cannot be achieved without increased use of wireless devices that require access to the same electromagnetic spectrum as the commercial users.

Wireless Devices Enable Information-Centric Warfare



Spectrum is the thread that ties together all DoD operations, but the challenges to spectrum access are greater than ever before

The DSO is working closely with the Military Services, the DoD Chief Information Officer (OSD CIO), and the Office of Secretary of Defense Cost Assessment and Program Evaluation (OSD CAPE) to ensure that any affected DoD systems will be accommodated in other suitable portions of spectrum without detrimentally impacting the missions these systems currently perform. To improve and accelerate this critical process, analysis systems have been enhanced. In other cases new techniques and applications are being developed. In the future, access to better spectrum usage data will allow more accurate and timely analysis in order to assess any initiatives to repurpose spectrum.

Defense Spectrum Organization Strategic Planning

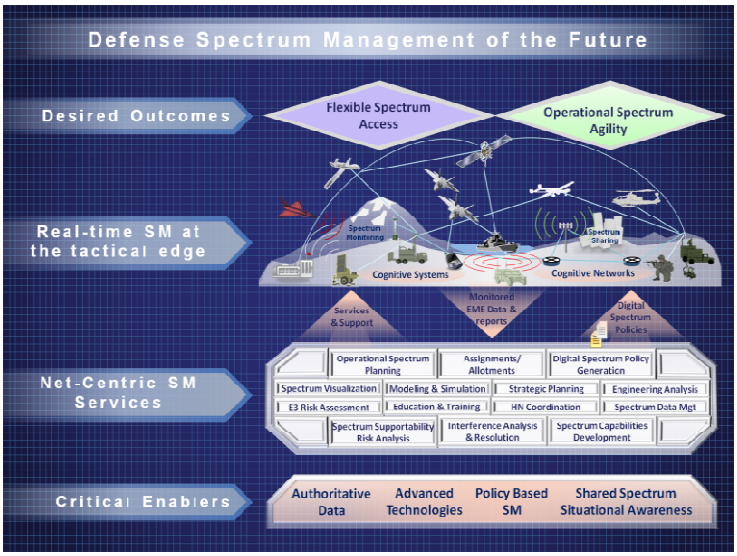
Spectrum Strategic Planning

The DSO is instrumental in collecting spectrum requirements for the DoD and analyzing emerging capabilities for possible solutions. Solutions to address spectrum access requirements are chief among these.

Demand for spectrum access is greater than ever. In the US, according to CTIA (The Wireless Association), use of cell phones and similar wireless devices has grown from approximately 34 million subscribers in 1995 to 321 million in 2012! In similar fashion the DoD's attempts to network large numbers of mobile devices and transmit vast amounts of data around the battlespace has created similar demands on spectrum access. In the most desirable bands that best support mobile capabilities, the spectrum is already saturated.

In order to ensure continued access to suitable and sufficient spectrum around the globe, the DoD has adopted a strategy to expand spectrum access by developing systems that are more flexible, adaptable, efficient and agile. This new EMS Strategy provides a framework for achieving these goals while also improving our ability to assess and respond to spectrum regulatory changes.

The DSO is charged with developing and implementing a Roadmap and Action Plan to affect the specific actions and tasks required to achieve the Goals & Objectives laid out in the strategy. Much of the effort involved will be to assess and report progress by monitoring activities over the long-term and then adjusting future actions and tasks as required.



Defense Spectrum Management Architecture

A key component of the EMS Strategy will be transforming DoD spectrum management in response to new techniques and technologies. The Defense Spectrum Management Architecture is the framework by which DoD will migrate the current set of systems and services from a static, stove-piped, and largely manual model to one that is more automated, net-centric and universally available. In the long-term it promotes the decentralization of spectrum decision making by enabling cognitive and adaptable devices to automatically make their own spectrum decisions in response to the local electromagnetic environment, local regulations and the assigned mission.

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Defense Spectrum Organization

WORLD RADIOCOMMUNICATION CONFERENCE SUPPORT

What is the World Radiocommunication Conference?

The World Radiocommunication Conference (WRC) is a global diplomatic meeting, held every 3-5 years by the International Telecommunication Union (ITU), which is the United Nations' specialized agency for telecommunications. Virtually every country in the world sends a delegation to the WRC. The Conference re-examines and revises the ITU's Radio Regulations, which guide the use of radio-frequency (RF) spectrum and have the status of a binding treaty. The head of the US delegation has plenipotentiary status as Ambassador.

DSO Coordinates DoD Preparations for WRC

The Defense Spectrum Organization (DSO), the center of spectrum engineering and policy expertise within the Defense Information Systems Agency (DISA), plays the **CRITICAL** role in the Department of Defense (DoD) preparations for each WRC cycle. DSO is responsible for achieving consensus among the different DoD agencies, military departments (MILDEPs) and Joint Staff. DSO is the steering member of the International Permanent Working Group of the Military Communications Electronics Board's Frequency Panel, which is tasked with DoD WRC preparations. In addition, DSO provides the US WRC Ambassador technical support and regulatory guidance on DoD issues.

Key WRC Facts

- *Revisions are made on the basis of an agenda*
- *Specific issues are referred to as Agenda Items*
- *ITU currently has 193 member states*
- *ITU operates by consensus, voting only rarely*
- *Each nation has one vote*
- *WRC proposals are developed by nations and regional administrations*
- *WRCs set the world stage for future technological development*
- *WRCs balance commercial, governmental, scientific spectrum use*

Ensuring Spectrum Access through Global Engagement

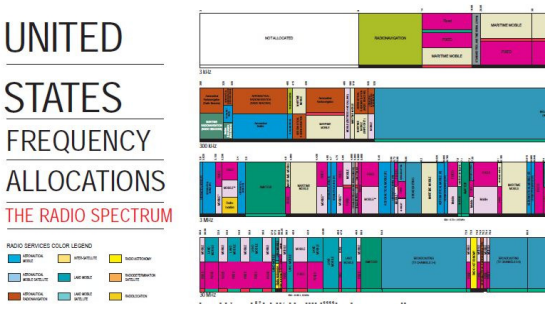
Defense Spectrum Organization

WORLD RADIOCOMMUNICATION CONFERENCE SUPPORT

International Process

National governments build coalitions around their positions through existing regional organizations, such as the telecommunications branch of the Organization of American States (known as CITEL) and others representing Europe, Asia and Oceania, Africa, the Arab states and the former Soviet republics. The agreed-upon common positions are advanced globally through ITU channels, culminating at the WRC. NATO and the Combined Communications Electronics Board (CCEB) develop allied military WRC positions to influence civil regulators and the civil sector. DSO directly participates in ITU and allied WRC preparatory activities, ensuring that DoD equities are considered throughout each WRC cycle.

Each Nation has Sovereignty Over the Use of its Spectrum!



Domestic Process

US positions in a WRC cycle are developed via a dual process, in which federal agencies, including DoD, generate positions through the National Telecommunications & Information Administration, while industry and state/local governments develop their positions through the Federal Communications Commission. DoD competes with interests of all other U.S. Federal Agencies, and the interests of industry, in U.S. position formulation. DSO works closely with the military services to ensure DoD equities are considered throughout both processes. DSO then continues advocating for defense community interests, as often-contradictory positions are reconciled by the State Department. Once reconciled, positions are adopted by State as official US positions. DSO plays a vital role in advancing these positions through technical studies and international outreach. During the six months prior to and during the Conference, DSO directly supports the U.S. WRC Ambassador as a member of the U.S. Core Delegation.

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